SNAP 2015 Question Paper

Symbiosis National Aptitude Test or SNAP Test

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SECTION – I

GENERAL AWARNESS   **Number of questions: 40**

1.   The full form of CSIRO is

        1. Comprehensive Scientific and Industrial Research Organization
        2. Cross-cultural Scientific and Industrial Research Organization
        3. Commonwealth Scientific and Industrial Research Organization
        4. Council of Scientific and Industrial Research Organization

2.   The full form of UNRISD is

        1. United Nations Research Institute for Soviet Development
        2. United Nations Research Institute for Scientific Development
        3. United Nations Research Institute for Socio-economic Development
        4. United Nations Research Institute for Social Development

3.   *Bhaona* is a presentation of the *Ankia Naat* of Assam. In *Bhaona* the cultural glimpses of
        _____ is/ are reflected.

        1. Assam and Orissa
        2. Bengal
        3. Mathura and Brindavan
        4. All of the above

4.   Under which Act does the Archaeological Survey of India (ASI) protect monuments, sites and
        remains of national importance ?   .

        1. AMASR Act, 1958   2. AMASR Act, 1968
        3. AMASR Act, 1978   4. AMASR Act, 1948

5.   In 2015 the President of India approved conferment of Padma Awards to all of the following but
        for _____

        1. Kharag Singh Valdiya   2. Mohammad Yusuf Khan
        3. Lakshmi Gopala Naidu   4. Saichiro Misumi

6.   In Grammy Awards 2015 the best folk album was won by _____

        1. Pharrell Williams - "Happy"   2. Old Crow Medicine Show – Remedy
        3. Rosanne Cash - The River & the Thread   4. None of the above

7.   Scientists discovered a new species in the human family tree which is a small creature with a
        tiny brain. The new species has been named as _____

        1. Homo Naledi   2. Dwarf Sapein   3. Dwarf Homo Sapein4. None of the above

8.   The ministry of external affairs has recently decided to change the nomenclature of Indian
        Based Domestic Assistance (IBDA) to _____

        1. Government Serving Based Domestic Assistance (GSBDA)
        2. Swadesh Swatcha Domestic Assistance (SSDA)
        3. Service Staff (SS)
        4. Bharath Based Service Assistance (BBSA)

9. The foreign exchange reserve of India consists of _____

1. The foreign currency assets held by RBI and the gold holding of RBI
2. The gold holding of RBI and special drawing rights
3. The gold holding of RBI, the foreign currency assets held by RBI and special drawing rights
4. Only the foreign currency assets held by RBI

10. _____ is a charge for converting bullion into coins where free coinage is permitted. This charge is equal to the cost of bullion to coins transformation.

1. Bull-Coin   2. Brassage   3. Bit Coin   4. Coin Levy

11. Microsoft introduced several new products for education customers, this includes a note-taking app called _____

1. Office Note classroom   2. Micro Note class Notebook
3. Soft note for classroom   4. One Note class Notebook

12. The National Merit Scholarship Scheme, which provided financial assistance to meritorious students from Class XI to Post- Graduation level in Government Schools/Colleges/Universities has been discontinued from the year _____

1. 2009   2. 2008   3. 2007   4. None of the above

13. The Symbol used for reusable microwaveable plastic ware is _____

14.

15. Super Blood Moon, which is a rare astronomical phenomenon hasn't happened since _____, and won't happen again until _____

1. 1982, 2033   2. 1980, 2035   3. 1978, 2032   4. 1975, 2031

16. The galaxy _____ was initially discovered with NASA's Spitzer Space Telescope in infrared light and is believed to be at least 9 billion years old.

1. ANDROMEDA   2. COSMOS REDSHIFT
3. SAGE0536AGN   4. SUNFLOWER

17. In the year 2014 Facebook bought Whatsapp for _____ US Dollars.

1. 17 billion   2. 18 billion   3. 19 billion   4. 20 billion

18. Shri Narendra Modi was sworn in as the Prime Minister of India on _____ at the Rashtrapati Bhavan in New Delhi.

1. 25th May 2014   2. 19th May 2014   3. 26th May 2014   5. 27th May 2014

19. Where is the doldrums belt located ?

1. Near the Equator   2. Near the Poles
3. Near the Tropic of Cancer   4. Near the Tropic of Capricorn

20. The air quality in Singapore deteriorated to a hazardous level in September 2015, forcing the city-state to shut its schools for the first time in 12 years. This was due to .

1. Haze created mainly due to companies in Malaysia
2. Haze created mainly due to companies in Indonesia
3. Haze created mainly due to companies in Philippines
4. Haze created mainly due to companies in Vietnam

21. In 1347 during the reign of Muhammed Tuglak an Afghan officer named _____ ___setup an independent kingdom called Bahmani Kingdom.

1. Mahmud Gawan Bahmani   2. Mohammad Yusuf Bahmani
3. Hasan Gangu Bahmani   4. Khwaja Tuglak Bahmani

22. The task of consolidating Mughal Kingdom was left to Akbar who was only _____ years old at the time of his accession of the throne.

1. Eleven Years   2. Twelve Years   3. Thirteen Years   4. Fourteen Years

23. Smoking in public places was prohibited nationwide from _____

1. 15thAugust2008   2. 02nd October 2008   3. 15th August 2009   4. 02nd October 2009

24. A constitutional right can be _____ recognized and established by a sovereign State or union of States.

1. a prerogative or a duty or a restraint of power
2. a prerogative or a duty, a power or a restraint of power
3. a prerogative or a duty, a power but not a restraint of power
4. a power but not a prerogative or a duty

25. In Nepal the festival of lights i.e. Diwali is celebrated by some Buddhists as _____

1. Tihar   2. Swanti
3. Both options a and b   4. Neither of the options above

26. The term "Vrajapati" used in Indian Mythology denoted _____

1. The Head of the Village   2. The Head of the Family
3. The Head of a Society   4. The Head of Merchants

27. One of India's most distinguished constitutional lawyers who had received brickbats for arguing in favor of Dow Chemicals in the Bhopal gas disaster case is _____

1. Ram Jethmalai   2. Fali Nariman   3. Mukul Rohatgi   4. Pramila Nesargi

28. The Nobel Peace Prize winner who gave up .freedom and a life with her family in Britain, to protest against the military rule at another country, who is also the Chair of the National League for democracy is _____

1. Angela Merkel   2. Christine Lagarde   3. Brito Polman '   4. Aung San Suu Kyi

29. In September 2015 it was revealed that   is the country which was exporting drone components worth hundreds of millions to countries that include Saudi Arabia and South Korea, to regain lost ground in a global arms race.

1. France   2. United Kingdom   3. Japan   4. United States of America
          ".
30. In the Indian general assembly elections 2014 the BJP-led NDA won _____seats out of_____ Lok Sabha seats that were announced

1. 335,546   2. 334, 545   3. 336, 543   4. 332,544

31. The BS EN 16001 solutions from BSI is applicable for   .

1. Energy Management Systems   2. Environment Management Systems
3. Energy Process Systems   4. Environment Standard Systems

32. The WEEE (Waste from Electrical and Electronic Equipment) is a directive that controls _____

1. how electric and electronic equipment is handled and recycled
2. how electric and electronic equipment is manufactured and handled
3. how electric and electronic equipment is recycled
4. how electric and electronic equipment is manufactured, handled and recycled

33. The Sensex and Nifty are both indices. The base years for the BSE Sensex and Nifty are_____ and _____ respectively.

1. 1980-81 and 1990   2. 1990-91 and 2000
3. 1978-79 and 1995   4. 2000-01 and 2004

34. The artist who painted Irises, Sunflowers, Red Poppies, Pink Roses was   _____

1. Vincent van Gogh   2. Sandro Botticelli
3. Leonardo da Vinci   4. Michelangelo

35. Which Indian satellite was launched that has a fantastic timing and records 1000th of a second ?

1. GSAT-16   2. IRNSS-1D   3. GSAT-6   4. Astrosat

36. W3C stands for _____

1. Triple Web Consortium   2. Triple Web Consolidation Council
3. World Wide Web Consortium   4. World Wide Web Company

37. The country/countries that has/have resorted to Quantitative easing in the last decade is/are

1. United States of America
2. United Kingdom
3. Japan
4. All of the above

38. Who is the Indian badminton player who after spending an year after his shoulder injury earned a final appearance at the Korean Open in 2015 ?

1. Chetan Anand
2. AjayJayaram
3. Parupalli Kashyap
4. Sameer Verma

39. *Tamaasha,* the traditional folk theatre form of Maharashtra has evolved from the folk forms of

1. Gondhal, Jagran and Kirtan
2. Only Kirtan
3. Only Gondhal, Jagran
4. Only Gondhal

40. The last series of wall painting in India are from near Hindupur belonging to 16th century A.D.

1. Lepakshi temple
2. Shiva temple
3. Sri Venkateswara Swami Temple
4. Ganesh Temple

ANALYTICAL AND LOGICAL REASONING   Number of questions: 30

41.   A bungalow has one of its room located on the first floor and there are three identical 100 watt electrical bulbs fixed in the room. Each bulb is connected to a specific switch located at the basement. There are only three switches in the basement. All the bulbs are switched off at present and you are also at the basement area. The first floor cannot be seen from the basement area. If you are allowed to use your common prudence, what is the minimum number of times that you will have to go from basement to first floor to identify which switch goes to which bulb?

1. 03 times   2. 20 times   3. 01 time   4. 06 times

42.   Shyam is running a start-up. His initial investments are high and he is trying hard to manage and increase his cash flow. The sundry expenses that his firm incurs is negligible. He found from his accountant that the amount of pre-paid expenses in the balance sheet, which were booked from the previous year to the current year was increased. Shyam also ensured that his cash funded by the venture capitalists did not reduce when compared to the previous year. The interest that he gets from his fixed deposits increases, which is in tune with his sundry expenses. The final effect on cash for this year would be _____.

1. Cash flow marginally increases   2. Cash flow exponentially increases
3. Cash flow remains the same   .   4. None of the above

43.   A producer of a drama theatre is creating his weekend schedule. The producer has six plays to choose from: "Made in India", "Laugh for a while", "The Life is your choice", "MBA – Maha Budhiman Aadmi", "Placements -my goal", "MBA Go Getters". The producer sets a schedule based upon the following criteria.

I. "Made in India" must be shown before "The Life is your choice" and "Laugh for a while"
II. "Laugh for a while" must be shown before "MBA - Maha Budhiman Aadmi"
III. "Placements - my goal" must be shown after "The Life is your choice" and "MBA Go Getters"

Which of the following weekend schedules are consistent with the producer's criteria ?

1. Made in India, Laugh for a while, The Life is your choice, MBA - Maha Budhiman Aadmi, Placements - my goal and MBA Go Getters.
2. MBA Go Getters, Made in India, Laugh for a while, The Life is your choice, Placements - my goal and MBA - Maha Budhiman Aadmi.
3. Made in India, MBA Go Getters, Placements - my goal, Laugh for a while, MBA – Maha Budhiman Aadmi and The Life is your choice.
4. Made in India, MBA Go Getters, MBA - Maha Budhiman Aadmi, The Life is your choice, Placements - my goal and Laugh for a while

44. Mr. Peter gave his eldest son David a bag with 1000 gold coins. David took 230 gold coins from the bag and gave the rest to his younger brothers John, Joe and Jonathan, and advised them to distribute the balance left in the bag amongst themselves in proportion to their age which together amounted to 17.5 years. After a lot of deliberation and discussion John, Joe and Jonathan came to a conclusion to distribute the gold coins. Their methodology was as follows: As often John took 4 gold coins, Joe took 3. As often John took 6 gold coins Jonathan took 7.

What was the age of John, Joe and Jonathan ?

1. 6 years, 4.5 years and 7 years respectively
2. 5 years, 5.5 years and 7 years respectively
3. 6 years, 5 years and 6.5 years respectively
4. 5 years, 6.5 years and 6 years respectively

45. Mohan has an antique clock which strikes and makes loud gong sound every hour. It strikes the exact number of times indicating the time of the day or night. His clock takes seven seconds to strike Seven O' clock, how many seconds will his clock take to strike Eleven O'clock?

1. 11.22222227 seconds   2. 11 seconds
3. 11.66666667 seconds .   4. None of the above

46. Find the missing number : 2, 6, 20, 42,110 _____

1. 126   2. 156   3. 176   4. 196

47. Fifteen years back, Ms. Kalpana had three sons Ramesh, Suresh and Rajesh. The sum of the age of Ramesh, Suresh and Rajesh was equal to half of the age of their mother. It was during the next five years when Mahesh was born. Then the age of Ms. Kalpana was equal to the sum of the ages of all her children. Time went on and years passed and Dinesh was born and age of Ramesh equaled the sum of the ages of Rajesh and Mahesh. Now, it so happened that the sum of the ages of Ramesh, Suresh, Rajesh, Mahesh and Dinesh was double the age of their mother and was also equal to the sum of the ages of Suresh and Ramesh. Also Ramesh's age was equal to sum of the ages of Mahesh and Dinesh. What is the age of Ms. Kalpana?

1. 39 years   2. 42 years   3. 41 years   4. None of the above

48. Find the missing number: - 1, 0, 0, _____, 8

1. 1   2. 2   3. 3   4. 4

49. Ceiling Fan: Table Fan : abcdefg: _____

1. abcdefg   2. abcdefg   3. gfedcba   4. None of these

50. Given Statement: The new amendment of Corporate Social Responsibility (CSR) in India refers to bringing an overall positive impact on the communities, cultures, societies and environments. The fundamentals of CSR rest on the fact that not only public policy but even corporate should be responsible enough to address social issues.

Argument I: Government should not enforce companies to take up CSR.
Argument II: Companies moral responsibility is to take up CSR for a long run benefit.
1. Argument II is correct but Argument I is wrong
2. Argument I is correct but Argument II is wrong
3. Both the arguments are false
4. Both the arguments are correct

51. LPG subsidy is a stand taken by the government. Linking of Aadhar card to a bank account has been made mandatory for receiving the subsidy.

Argument I: All people should give up LPG subsidies.
Argument II: To fill the gap between poor and rich.

1. Argument II is the output of Argument I
2. Argument I is a byproduct of Argument II
3. Argument I and Argument II are complementing to each other
4. No logical link between Argument I and Argument II

52. If CAB is coded as 723 – 5 58 in a coded language then how will DAD be coded ?

1. 4023 -5 4023   2. 4090 -5 4090   3. 1024 -5 1024 4. 1246 -5 1189

53. If MONEY is coded as 144 200 171 0 600 then DOLLAR is coded as _____

1.	- 9	200	199	119	- 24	299
2.	- 8	200	106	106	- 20	200
3.	122	200	102	102	10	154
4.	120	200	101	101	08	156

54. There are 100 MBA aspirants in a classroom and 99% of them are engineers. How many engineers must leave the classroom in order to reduce the percentage of engineers in the classroom to 98% ?

1. 1   2. 2   3. 50   4. 90

55. Vikas was showing a photograph to his friend and pointed to a boy and told the following statement "His name is Atul and his maternal grandfather's brother is my maternal grandfather's sister's son." How is Atul related to Vikas ?

1. They are brothers   2. Vikas is the uncle of Atul
3. They are distant cousins   4. None of the above

56. There was a party organized and the following members attended the party : Sheela, Amruta, Rohit, Rahul, Ajey, Ranveer and Gauri.

Sheela is mother-in-law of Amruta, who is sister-in-law of Rohit. Rahul is the father of Ajey. Ajey is the brother of Rohit. Ranveer is the only brother of Rahul and the father-in-law of Gauri. Gauri was married to Rohit. How is Sheela related to Ranveer ?

1. Cousin   2. Mother   3. Sister   4. None of the above

DIRECTIONS *for question 57 and 60: Using the information given below answer the question from 57 to 60.*

A chef is trying a recipe for a tasty ice cream using four ingredients. He can choose from three liquids for taste which are labeled A, B and C which are stable in nature and the choice for flavor can be from four liquids which are labeled W, X, Y and Z. For the new ice cream recipe to be tasty, there must be two liquids from the taste giving liquids. Also certain liquids cannot be mixed because of their reactions which makes it unhealthy for human consumption and the same is given below
B cannot be mixed with W
C cannot be mixed with Y
Y cannot be mixed with Z

57. If the chef calculated that Y is the most important flavor and must be used in the recipe, which other ingredients must be part of the recipe ?

1. A, B and W   2. A, B and X   3. A, B and Z   4. B, C and X

58. 'If the chef rejected B because of its possible side effects but decided to use Z, which is a possible combination of the four ingredients in the recipe ?

1. A, C, W and Z   2. A,X,Y and Z   3. A,W,X and Z   4. A,C,Y and Z

59. Which of the following combination of liquids is impossible ?

I. Using Y and W together
II. Using B and C together
III. Using W, X and Z together

1. I only   2. II only   3. III and I only   4. II and I only

60. Which of the following must always be true ?

I. If C is used W must be added
II. If Y is used B must be added
III. If C is not used W cannot be added

1. I and II only   2. II and III only   3. I, II and III only   4. II only

61. Which letter from the options given will replace the " ? " in the table given below

CAT 389376 DOG
RAT 1758276 MAT
CAB 15876 FAN
CAN 571536 ?

1. MAN   2. GIFT   3. PAN   4. SOFT

62. Which word from the given options will replace the "?" in the table given below

WOE	1089	MISERY
VANQUISH	1308	SUBDUE
TACITURNITY	1547	SILENCE
SPLEEN	1806	?

1. MALEVOLENCE   2. JOIN   3. LINK   4. DRIP

63. Which word from the given options will replace the " ? " in the table given below

MBA	728	NCB
BCA	24	CDB
BCS	24	CDT
FCA	?	GDB

1. 48   2. 168   3. 64   4. 132

64. What is the least number of straight lines needed to draw the following diagram?
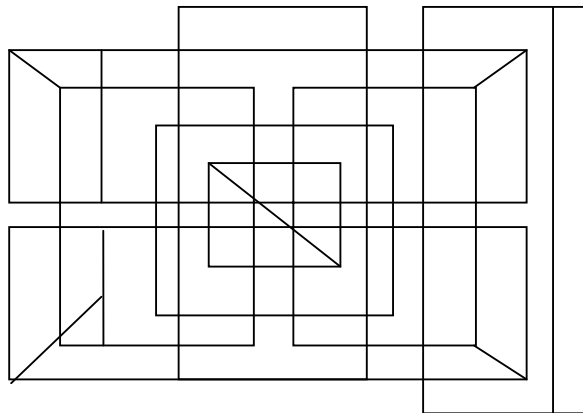
1. 39   2. 40   3. 42   4. None of the above

65. If : THEN : ?

1.

2.

3.

4.

DIRECTIONS *for question 66 and 70: Based on the information given below answer the questions*

Ten friends Matt, Sam, Pat, Tom, Sid, Alex, Kat, Jim, Jane and John are having dinner on a rectangular table. Eight facing each other along the length of the table while two facing each other along the smaller side of the table. Pat is sitting diagonally opposite to Kat, Alex is facing Jim, John is to the right of Jane, Tom is sitting between Sam and Jim, Pat is to the extreme left of Jane who is sitting on the extreme right along the length of the table. Sid is facing Tom and Matt is on the right of Sam.

66. Who do you think is sitting in front of each other along the small sides of the table ?

    1. Matt and John   2. Matt and Sam   3. Matt and Kat   4. John and Sam

67. Sid is sitting between which of the following two ?

    1. Sam and Kat   2. Pat and Alex   3. Alex and Jane   4. Kat and Jane

68. Who are sitting diagonally opposite to each other ?

    1. Sid and Tom   2. Sam and Jane   3. Alex and Jim   4. Jane and Kat

69. Who is sitting to the immediate right of Jim ?

    1. Sam   2. Jane I   3. Alex   4. Tom

70. Who is sitting two places left to Jane ?

    1. Pat   2. Alex   3. Sid   4. Sam

GENERAL ENGLISH   **Number of questions: 40**

71.   "To catch a tartar" means _____

    1. To trap wanted criminal with great difficulty
    2. To catch a-dangerous person
    3. To catch a person who is more than one's match
    4. To meet with disaster

72.   A leopard can't change its _____

    1. Dots   2. Stripes   3. Colour   4. None of the above

73.   "So sober sometimes serious Sam smiles on silly things" is a /an _____.

    1. Hyperbole   2. Assonance   3. Anaphora   4. Alliteration

74.   "The strength given by my mother is bigger than the cosmic energy in this cosmos" is _____

    1. Rhyme   2. Metaphor   3. Personification   4. Hyperbole

75.   The buzzing of bees is an example of _____

    1. Simile   2. Metonymy   3. Onomatopoeia   4. Paradox

76.   The word CACTI is of Latin origin. It can also be replaced by _____

    1. Cactus   2. Cats   3. Cactuses   4. Cactusus

77.   The word TROUSSEAUX is of French origin. It can also be replaced by _____

    1. Troussers   2. Trousseaus   3. Troussears   4. None of the above

78.   The singular of the word SCARVES is spelt as _____

    1. Scarve   2. Scarfe   3. Scarv   4. None of the above

79.   The "Drawing Pins" in British English is referred to as _____ in American English.

    1. Thumb pins   2. Board pins   3. Broad pins   4. Thumbtacks

80.   "Aubergine" in Britain is referred to as   in United States of America.

    1. Migraine   2. Eggplant   3. Margarine   4. Egg

81.   Base ball in American English is commonly referred to as _____ in British English.

    1. Run ball   2. Strike ball   3. Rounders ball   4. Rounders

82. _____ weapon

   1. Nuclear   2. Atomic   3. Molecular   4. Electronic

83. Seminal _____

   1. News   2. River   3. Nuance   4. Research

84. _____ Percentage

   1. Huge   2. Big   3. More   4. Large

85. The idiom "Against the clock" means

   1. Break the Rules   2. Rushed and short on time.
   3. Go back to the Past   4. Look at the Past

86. The idiom "Buy a lemon" means _____

   1. A superstitious way to say 'good luck' '
   2. A lie which is propaganda for people to believe
   3. An unbelievable story which is told for people to believe
   4. To purchase a vehicle that constantly gives problems or stops running after you drive it away.

87. Kedar uses the following sentence to introduce himself. Choose the correct option.

   1. Myself Kedar, I belong to Mumbai
   2. Myself Kedar and I am from Mumbai
   3. Myself Kedar from Mumbai
   4. None of the above

88. Ram uses the following sentence to tell the time of the day to Shyam. Which one is the correct sentence ?

   1. It is 2 pm in the afternoon   2. It is 2 pm
   3. It is 2 pm in the noon   4. It is 2 o'clock in the afternoon

89. My Parents are Indians but I am born in Sydney.
   1   2 3   4

   1. Only 1   2. 1 and 3   3. Only 3   4. Only 4

90. Standing on the top of the tower the whole city could be seen.
     1 2 3

   1. Only 1   2. Only 2   3. 1 and 2   4. None of the above

91. Ganesh is <u>taller than</u> Ramesh <u>but</u> Anoop <u>is</u> <u>more taller.</u>
                                1   2   3 4

1. Only 1   2. Only 2   3. Only 3   4. Only 4

DIRECTIONS *for question 92 and 96:* *Read the following passage and answer the questions*

"There are several factors that contribute to wisdom. Of these I should put first a sense of proportion; the capacity to take account of all the important factors in a problem and to attach to each its due weight. This has become more difficult than it used to be owing to the extent and complexity of the specialized knowledge required of various kinds of technicians. Suppose, for example, that you are engaged in research in scientific medicine. The work is difficult and is likely to absorb the whole of your intellectual energy. You have no time to consider the effect which your discoveries or invention may have outside the field of medicine. You succeed (let us say), as modern medicine has succeeded, in enormously lowering the infant death-rate, not only in Europe and America, but also in Asia and Africa. This has the entirely unintended result of making the food supply inadequate and lowering the standard of life in the most populous parts of the world. To take an even more spectacular example, which is in everybody's mind at the present time- you study the composition of the atom from a disinterested desire for knowledge and incidentally place in the hands of powerful lunatics the means of destroying the human race. In such ways the pursuit of knowledge may become harmful unless it is combined with wisdom; and wisdom in the sense of comprehensive vision is not necessarily present in specialists in the pursuit of knowledge.

Comprehensiveness alone, however, is not enough to constitute wisdom. There must be, also, certain awareness of ends of human life. This may be illustrated by the study of history. Many eminent historians have done more harm than good because they viewed facts through the distorting medium of their own passions. Hegel had a philosophy of history which did not suffer from any lack of comprehensiveness, since it started from earliest time and continued into an indefinite future. But the chief lesson of history which he sought to inculcate was that from the year A.D. 400 down to his own time, Germany had been the most important nation and the standard bearer of progress in the world. Perhaps one could stretch the comprehensiveness that constitutes wisdom to include not only intellect but also feeling. It is by no means uncommon to find men/ women whose knowledge is wide but those feelings are narrow. Such men / women lack what I am calling wisdom.

I think the essence of wisdom is emancipation, as far as possible, from the tyranny of the here and the now. We cannot help the egoism of our senses. Sight, sound and touch are bound up with our own bodies and cannot be made impersonal. Our emotions start similarly from ourselves. An infant feels hunger or discomfort; gradually with the years his horizon widens, and, in proportion as his thoughts and feelings become less personal and less concerned with his own physical states, he achieves growing wisdom. This is of course a matter of degree. No one can view the world with complete impartiality; however, it is possible to make a continual approach towards impartiality, on the one hand, by knowing things somewhat remote in time or space, and, on the other hand, by giving to such things their due weight in our feelings. It is this approach towards impartiality that constitutes growth in wisdom.

Perhaps in this sense the wisdom can be taught. I think that this teaching should have a larger intellectual element than has been customary in what has been thought of as moral instruction. I think that the disastrous result of hatred and narrow mindedness to those who fed them can be pointed out incidentally in the course of giving knowledge. Knowledge and morals ought not to be too much separated. It is true that the kind of specialized knowledge which is required for various kinds of skills has very little to do with wisdom. But it should be supplemented in education by wider surveys calculated to put it in its place in the totality of human activities. Even the best technicians should also be good citizens, i.e. citizens of the world and not of any one nation. With every increase of knowledge and skill, wisdom becomes more necessary for every such increase augments our capacity of realizing our purposes, and therefore augments our capacity for evil, if our purposes are unwise. The world needs wisdom as it has never needed it before; and if knowledge continues to increase, the world will need wisdom in the future even more than it does now.

92. According to the author what results in growth of wisdom ?

1. Widening Knowledge and narrowing feelings
2. Acquiring specialized knowledge which is required for various kinds of skills
3. Viewing the world with complete impartiality
4. None of the above

93. According to the author the essence of wisdom is _____

1. Deliverance from the oppression of here and now
2. Subduing from the oppression of here and now
3. Captivity from the oppression of here and now
4. All of the above

94. What according to the author is the relationship between knowledge and wisdom ?

1. As human wisdom increases there is increase in knowledge created
2. As knowledge keeps on increasing there is lesser need of wisdom
3. As knowledge keeps on increasing there is a higher need for wisdom
4. As growth in wisdom stops, knowledge creation stagnates.

95. The example used by the author to explain the ways in which the pursuit of knowledge can be harmful, unless combined with wisdom, is

1. the space mission
2. medicine that lowers infant mortality across the world.
3. the progress of Germany.
4. none of the above.

96. What factors according to the author, contribute to wisdom ?

1. a sense of proportion, giving knowledge, study of history, emancipation
2. a sense of proportion, dignity, knowledge, skill
3. comprehensiveness, a sense of proportion, awareness of the end of human life, emancipation from the tyranny of the present
4. none of the above.

DIRECTIONS *for question 97 and 98: Read each of the components of the given sentences and mark the component with grammatical error.*

97.   I. He is capable at
II. twisting any fact
III. without any suspicion
IV. at any time.

1. Only I   2. Only II   3. Only III   4. Only IV

98.   I. My cousin brother, who lives
II. in Goa, is eager to visit us
III. in Mumbai and aspires to have
IV. a glimpse of the city

1. Only I   2. Only II and III   3. Only IV   4. None of the Above

DIRECTIONS *for question 99 and 100: Choose the correct word which best fits for the sentence to be complete and grammatically correct.*

99. It was no wonder that after the roads were closed with continuous snow fall, hotels started_____ off the tourists.

1. Raking 2. Taking 3. Beating 4. Looting

100. When the penalty corner was saved, the players _____ in toward the goal keeper to congratulate him.

1. closed 2. Went 3. Crashed 4. Pooled

101. The synonym for the word "Inclement" is

1. Stormy 2. Intimate 3. Advocacy 4. Immediate

102. The antonym for the word "Taciturn" is _____

1. Garrulous 2. Energetic 3. Ephemeral 4. Enigmatic

103. Complete with the appropriate collocation word _____ activism.

1. Judicial 2. Legal 3. Prosecutional 4. Lawful

104. If Propensity : Tendency then _____

1. Prologue: Epilogue 2. Master: Slave 3. Audacity : Impudence 4. Conduct: Immorality

105. If Tepid: Hot then _____

1. Jealousy : Envy 2. Hatred : Antipathy 3. Unity : Harmony 4. Joy : Ecstasy

106. From the following words pick the odd word out.

1. Lampoon 2. Satire 3. Ridicule 4. Parable

107. From the following words pick the odd word out.

1. Euphemism 2. Maxim 3. Aphorism 4. Dictum

108. From the following words pick the odd word out.

1. Force 2. Intimidation 3. Shakedown 4. Bleak

DIRECTIONS *for question 109 and 110: The questions 109 and 110 have sentences which are incomplete. Pick up one phrase / clause from the options given, that will complete the sentence logically.*

109. To ensure success in a difficult task_____

1. one needs to be persistent 2. persistence is needed
3. you need a person of persistence 4. persistence is what one needs

110. The more we looked at the piece of modern art _____

1. we liked it less 2. better we liked it
3. the less we liked it 4. we liked it more and more

SECTION – IV

QUANTITATIVE, DATA INTERPRETATION
AND DATA SUFFICIENCY
Number of questions: 40

111. A batsman was having 32 runs per innings as his average after 15th innings. His average increased by 2 runs after 16th inning. Then what was his score in the 16th inning?

1. 64   2. 60   3. 46   4. 62

112. The least number which is a perfect square and is divisible by each of the numbers 14, 16, 18 is

1. 6048   2. 7056   3. 1008   4. 2046

113. Four people clap after every 20 minutes, 30 minutes, 40 minutes and 50 minutes respectively. All of them clapped together at 10.00 am. Then they will again clap together at _____

1. 3 pm   2. 5 pm   3. 6 pm   4. 8 pm

114. Three candidates "A", "B", "C" participated in an election. "A" gets 40% of the votes more than "B". "C" gets 20% votes more than "B". "A" also overtakes "C" by 4000 votes. If 90% voters voted and no invalid or illegal votes were cast, then what will be the number of voters in the voting list?

1. 72000   2. 80000   3. 70000   4. 78500

115. In a competitive exam there were 5 sections. 10% of the total number of students cleared the cut off in all the sections and 5% cleared none of the sections. From the remaining candidates 30% cleared only section 1, 20% cleared only section 2, 10% cleared only section 3 and remaining 1020 candidates cleared only section 4. How many students appeared in the competitive exam ?

1. 2550   2. 2800   3. 3000   4. 3200

116. A man sold 3/5th of his articles at a gain of 20% and the remaining at cost price. Find the gain earned in the transaction.

1. 8   2. 10   3. 12   4. 14

117. A trader sells 20 articles at Rs. 54 per article after giving 10% discount and gains 50% profit. If the discount is not given, the profit gained is _____

1. 56.76%   2. 66.66%   3. 62.66%   4. 63.66 %

118. A bottle contains 50 liters of milk. From this bottle 5 liters of milk was taken out and replaced the water. This process was repeated further for three times. How much milk is now contained in the bottle ?

1. 32.8 liters   2. 34.4 liters   3. 36.8 liters   4. 46.5 liters

119. A ball is dropped from a height of 200 meters. After striking the floor it re-bounces to 4/5th of the height from where it fell. The total distance it travels before coming to rest is _____

1. 1200 meters   2. 1600 meters   3. 1800.meters   4. 1820 meters

120. The sum of all two digit numbers that give a remainder 2 when they are divided by 7 is _____

1. 552   2. 654   3. 658   4. 684

121. A man covers half of his journey by train at 90 km/hr, one-third of the remainder by bus at 30 km/hr and the rest by cycle at 10 km/hr. The average speed during the entire journey is _____

1. 22.5 km/hr   2. 28.5 km/hr   3. 30.0 km/hr   4. 32.5 km/hr

122. John's grandfather was five times older to him 5 years ago. He would be two times of his age after 25 years from now. What is the ratio of John's age to that of his grandfather ?

1. 7:11   2. 5:11   3. 3:11   4. 4:11

123. A number when successively divided by 5 and 6 gives remainders 3 and 2 respectively. What will be the remainders if the number is successively divided by 3 and 4 ?

1. 2, 3   2. 2,1   3. 1,2   4. 3,4

124. How many zeros would be there in 1024!

1. 240   2. 248   3. 256   4. 252

125. If $x = 3 + 2\sqrt{2}$ what will be the value of $x^2 + \dfrac{1}{x^2}$?

1. 35   2. 32   3. 36   4. 34

126. The unit digit in the final solution when, 13*27*63*51 *98*46 is_____

1. 4   2. 8   3. 2   4. None of the above

127. A dishonest seller sells his grocery items using a false weight and thus gains 5% for a kilogram, he uses the weight of approximately _____

1. 940.251   2. 943.123   3. 948.238   4. 952.381

128. A, B and C can do a work in 6, 8 and 12 days respectively. If they do the work together and earn Rs. 2700, what is the share of C in that amount ?

1. 600   2. 900   3. 1000   4. 700

129. How many words each of two vowels and three consonants can be formed from the letters of   the word "UNIVERSAL" ?

1. 7000   2. 7200   3. 7400   4. 7800

130. Three pipes A, B and C can fill a tank in 12 hours. All the pipes started working together and after 3 hours, C is closed. If A and B can fill the remaining part in 10 hours, then the number of hours taken by C alone to fill the tank is   .

1. 100 hours   2. 110 hours   3. 120 hours   4. 130 hours

131. If the numbers between 1 to 65 which will be divisible by 4 are taken and then if the number present in the units places and tens places is swapped, post which they are written in ascending order, then which of the following number will be at 10th place from the last ?

    1. 40   2. 24   3. 44   4. 25

132. Ajit, Ravi and Hari were trying to hit a target. If Ajit hits the target 5 times in 8 attempts, Ravi hits it 3 times in 5 attempts and Hari hits it 2 times in 4 attempts. What is the probability that the target is hit by at least 2 persons ?

    1. 40   2. 24   3. 44   4. 25

133. If $\frac{1}{2}\log x + \frac{1}{2}\log y + \log 2 = \log (x + y)$ then _____

    1. $x = -y$ 2. $x = y + 1$ 3. $x = y$ 4. $y = x + 1$

134. $\log_5 25 + \log_2 (\log_3 81)$ is

    1. 1   2. 2   3. 3   4. 4

135. Peter was standing on the top of a rock cliff facing the sea. He saw a boat coming towards the shore. As he kept seeing time just flew. Ten minutes less than half of an hour, the angle of depression changed from 30 to 60. How much more time in minutes will the boat take to reach the shore ?

    1. 5   2. 10   3. 15   4. 20

136. In a school where there was a compulsion to learn at least one foreign language from the choice given to them, namely German, French and Spanish. Twenty eight students took French, thirty took German and thirty two took Spanish. Six students learnt French and German, eight students learnt German and Spanish, ten students learnt French and Spanish. Fifty four students learnt only one foreign language while twenty students learnt only German. Find the number of students in the school.

    1. 60   2. 62   3. 70   4. None of the Above

137. Sonali can solve 70% of the problems in a competitive exam and Nirali can solve only 60% in the same exam. What is the probability that at least one of them will solve a problem, provided selection of questions is done randomly from the same exam ?

    1. 0.82   2. 0.88   3. 0.62   4. 0.72

138. Rs. XYZ was deposited at simple interest at a specific rate for 3 years. Had it been deposited at 2% higher rate, it would have fetched Rs. 360 more. Find Rs. XYZ.

    1. Rs. 5500   2. Rs. 5000   3. Rs. 6000   4. Rs. 4500

139. A man invests certain amount at 6% per annum simple interest and another amount at 7% per annum simple interest. His income from the interest after 2 years was Rs. 348. The ratio of first amount to second is 4:5. Find the total amount invested.

    1. Rs. 2600   2. Rs. 2900   3. Rs. 2700   4. None of the above

140. A person has a bag which contains 9 bulbs out of which 2 are fused and cannot be used to lighten the room. Two bulbs are selected at random. What is the probability that all the two bulbs chosen can be used to lighten the room ?

1. 5/12   2. 7/12   3. 9/12   4. 10/12

141. The value of $(p-a) * (p-b) * (p-c)............* (p-z)$ is _____

1. A complex polynomial which starts with p^{24}
2. Zero
3. A complex polynomial which starts with p^{26}
4. A complex polynomial which has several variables including p^{26} and p^{24}

142. There are nine humans in a ship, each human has nine cages and each cage has nine huge lions and each lion has nine cubs. How many legs are there in the ship ? (Human have two legs, lions have four legs, cubs have four legs.)

1. 747   2. 3258   3. 29178   4. 26561

143. As shown in the figure, there is a square of 24 cm. A circle is inscribed inside the square. Inside the circle are four circles of equal radius which are inscribed. The total area of the shaded region in the figure given below is _____

24 cm

24 cm
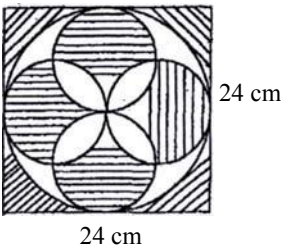
1. 576-196 π   2. 584-196π   3. 864-196 π   4. None of the above

144. In the figure given below the value of x and y would be _____
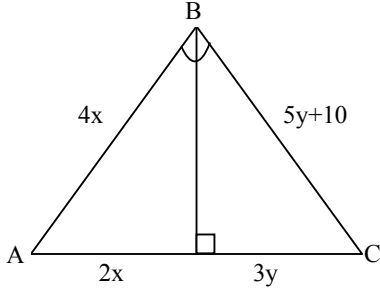
1. 10 and 15   2. 15 and 10   3. 06 and 12   4. 12 and 06

145. Mr. Suresh went into a restaurant and had a happy lunch for Rs.162. He paid for the same using a 500 rupee note. He was so happy with the meal and hence purchased a mini snack box for Rs. 37 and paid for the same using a 100 rupee note. Mr. Suresh ensured that he collected the balance from the cashier in both cases. Although he was satisfied with the service, he did not pay any tips to the server. The next day when the cashier went and deposited the money in the bank, it was found by the banker that only the two currency notes which were given by Mr. Suresh were counterfeit notes. As per policy, the bank immediately tore both the notes using their shredding machine. What is the total loss to the restaurant in this transaction ?

    1. 1200   2. 600   3. 7991   4. None of the above

146. If $2^x + 2^{x+1} = 48$ then the value of x^x is _____

    1. 04   2. 64   3. 256   4. 16

DIRECTIONS *for question 147 and 150:* *Following table shows the percentage population of six states below poverty line and proportion of male and female.*

State	% Population below poverty line	Proportion of male & female	
		Below Poverty line	Above Poverty line
		M:F	M:F
A	16	2:3	3:4
B	10	4:3	5:2
C	14	3:4	2:3
D	20	5:2	4:3
E	25	4:1	2:1
F	20	2:3	4:1

147. If the total population of state A is 5000 then what is the no. of females above poverty line in state A?

    1. 2000   2. 2400   3. 2600   4. Data inadequate

148. If the population of C&D together is 20000 what is the total no. of females below poverty line in the above states?

    1. 5000   2. 6000   3. 7200   4. NOTA

149. If the population of males below poverty line in state C is 6000 & state E 1000 then what is the ratio of the total population of state C& E is

    1. 2: 1   2. 3: 5   3. 11: 5   4. NOTA

150. If in state F population of females below poverty line is 16000, then what is the population of males below poverty line in that state?

    1. 8000   2. 6000   3. 12000   4. NOTA

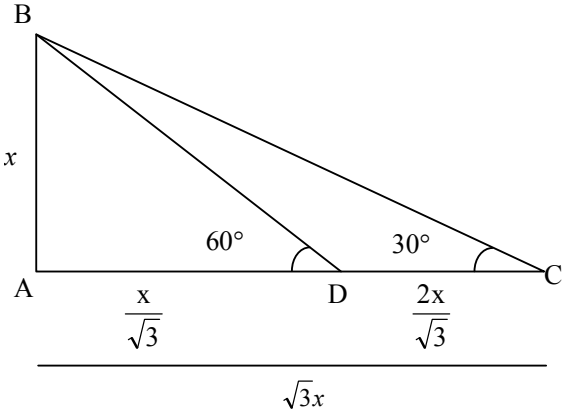| Q.	Key	Explanations
1.	3	
2.	4	
3.	4	
4.	1	
5.	3	
6.	2	
7.	1	
8.	3	
9.	3	
10.	3	
11.	4	
12.	3	
13.	2	
14.	2	
15.	1	
16.	3	
17.	3	
18.	3	
19.	1	
20.	1	
21.	3	
22.	3	
23.	2	
24.	3	
25.	3	
26.	1	
27.	2	
28.	4	
29.	2	
30.	3	
31.	1	
32.	3	
33.	3	
34.	1	
35.	3	
36.	3	
37.	4	
38.	2	
39.	1	
40.	1	
41.	3	Any of the 2 bulbs are switched on one after the other for a different period of time i.e. one for a longer period and other shorter. Now we go upstairs. The hotter bulb is the one which was turned on for more time and vice-versa. Hence, the answer is 3rd option.
42.	4	As amount of pre-paid expenses in the balance sheet, which were booked from the previous year to the current year was increased, means cash has reduced. Also what he gets from his fixed deposits increases, which is in equal to his sundry expenses. Hence the final effect on cash for this year is that it reduces.
43.	2	option 1 is incorrect as in this "Placements - my goal" is shown before "MBA Go Getters" which is against condition 3. option 3 is incorrect as in this "Placements - my goal" is shown before "The Life is your choice" which is against condition 3. option 4 is incorrect as in this "Laugh for a while" is shown after "MBA - Maha Budhiman Aadmi" which is against condition 2 Hence option 2 is correct which is satisfying all the conditions.
44.	1	Using the relation given between John & Joe and John & Jonathan we can calculate the ratio of their distribution of coins which also happens to be the ratio of their ages. As per the question, if John takes

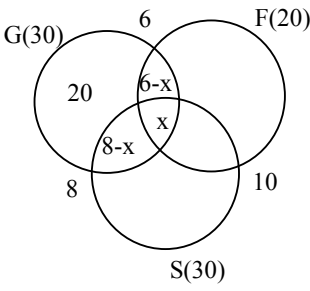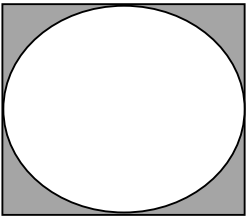|		
		4 gold coins, Joe takes 3. So ratio between John : Joe = 4 : 3 and if John takes 6 coins, Jonathan takes 7. So, ratio between John : Jonathan = 6 : 7. Combining the 2 ratios we get John : Joe : Jonathan = 12 : 9 : 14 Now this totals upto 35. But the total of their ages = 17.5. Hence, their ages will be half of the given ratio i.e. John = 6 Joe = 4.5 and Jonathan = 7.
45.	3	When clock takes 7 seconds to strike 7, it means the clock takes 7 seconds to cover 6 gaps of time periods in between 7 gongs. Now to strike 11 o'clock the time periods will be 10. So, time taken will be $\frac{7}{6} \times 10 = 11.67\,\text{sec}$.
46.	2	The series is $2^2 - 2$, $3^2 - 3$, $5^2 - 5$, $7^2 - 7$, $11^2 - 11$. So answer is $13^2 - 13$ i.e. 156.
47.	3	The logic is 0^2-1, 1^2-1, 2^2-1 and 3^2-1. So answer is 2^2-1 = 3
48.	2	Let G, S, R & N be their ages 15 years back. Let Amit & Keshav be born after x & y years, Thus their ages after 15 years can be written as A-x & K – y respectively. Thus the following equations are formed: G = 2 (S + R + N)………………………(1) 2(G + 15) = (S + 15) + (R + 15) + (N + 15) + {A + (15 - x)}+ {K + (15 − y) }…(2) S + 15 = {A + (15 − x)}+ {K + (15 − y) }……..(3) G + 15 = (S + 15) + (R + 15)………………..(4) Substituting equation 3 in 2 & then equation 4 in the new equation formed, we get R = N. Thus G = 24. Therefore G's present age is 24 + 15 = 39 years.
49.	3	Since R = N, therefore Ridhi & Nidhi are twins.
50.	1	The statement says that CSR should be followed not only by public but also by corporate which makes argument II as strong one. So the answer is option 1.
51.	4	As statement talks about importance of Aadhar card in getting LPG subsidy, the arguments seem to have no link in between. Hence, answer should be option 4.
52.	2	Looking at the options we conclude that (-5) is common in all choices so (A) will be coded as (-5). Now as C is 3 as per EJOTY, so squaring it makes 9 and further cubing it makes 729. Now subtract 6 to get 723. The same is applicable for B also which makes $2 \rightarrow 4 \rightarrow 64 - 6 \rightarrow 58$. Now $D \rightarrow 4 \rightarrow 16 \rightarrow 4096 - 6 \rightarrow 4090$. Hence answer is 2nd option.

53.	1	Logic used is $(ENJOTY)^2 - 25$.
		i.e. MONEY = $(13)^2$ $(15)^2$ $(14)^2$ $(5)^2$ $(25)^2$
		                169 225 196 25 625
		              - 25 - 25 -25 -25 -25
		                      = 144 200 171 0 600
		Hence DOLLAR is option 1

54.	3	Total aspirants = 100. Engineers = 99. Now to make the engineers 98% of total so $99 - x = \frac{98}{100}(100 - x)$. Solving x = 50.
55.	2	Vikas is the uncle of Atul.
56.	4	(+) Ranveer (Brother) (+) Rahul (Father) (-) Sheela (Mother) (-) Gauri (+) Rohit (-) Amruta (+) Ajay Hence, Sheela is the sister-in-law of Ranveer.
57.	2	If Y is used, then C cannot be used. So, A & B must be used. If B is used then W cannot be used. So, the only ingredients left are A, B & X.
58.	1	If B is rejected then A & C must be used. Also Z is used so Y cannot be used but W has to be used due to B's rejection. Hence, ingredients used are A, C, W & Z.
59.	3	I) W & Y if used then we cannot used B & C which is not possible II) B & C can be used together.

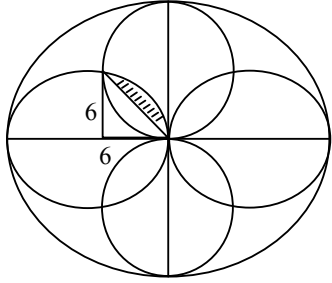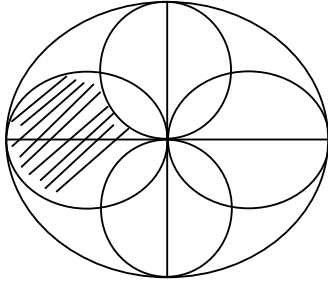|		
		III) W, X & Z cannot be used together as we will be left with only one ingredient to be used out of A, B & C which is not possible. Hence, option 3rd
60.	2	I) If C is used Y is not used and Z can be used. Now we are left with one ingredient out of W & X so we can use any. So, must not be true. II) If Y is used, C cannot be used hence, A & B must be used. III) If C is not used, A & B must be used and W cannot be used. Hence, option 2nd.
61.	2	The logic used is product of the squares of EJOTY sum i.e. e.g. CAB = 3 + 1 + 2 = 6^2 = 36. FAN = 6 + 1 + 14 = 21^2 = 441. $\Rightarrow$ 441 × 36 = 15876 Hence, CAN = 3 + 1 + 14 = 18^2 = 324. So, $\dfrac{571536}{324} = \sqrt{1764} = 42 \Rightarrow GIFT(7 + 9 + 6 + 20)$
62.	4	The logic used is addition of the EJOTY sum of two words is done and then reversed. e.g. WOE = 43 and MISERY = 89. $\Rightarrow$ 89 + 43 = 132 $\Rightarrow$ 231 Now, SPLEEN = 71 and total should be 118. So, the EJOTY of other word must be 47 which is DRIP.
63.	4	The logic used is that we take the EJOTY sum of both the letter groups and write them in reverse order i.e. MBA = 16 and NCB = 19 so we take 1916. Likewise BCA = 6 and CDB = 9 so we have 96 and finally FCA = 10 and GDB = 13 so answer is 1310.
64.	1	Counting the straight lines we get 39.
65.	3	The logic used is that take the first letter of the word represented by pictures i.e. (B)EE - (4) Fingers - (U)MBRELLA = B4U (M)ONKEY - (T)EA - (V)ICTORY = MTV (N)OSE - (D)OG - (T)EA - (V)ICTORY = NDTV Since all are TV channels so only option is 3rd which is STAR PLUS
66-70.		
66.	1	As per the diagram we observe that Matt and John are sitting in front of each other along the small sides of the table.
67.	2	As per the diagram we observe that Sid is sitting between Pat and Alex.
68.	2	As per the diagram we observe that Sam and Jane are sitting diagonally opposite to each other.
69.	4	As per the diagram we observe that Tom is sitting to the immediate right of Jim.
70.	3	As per the diagram we observe that Sid is sitting two places left to Jane.
71.	2	To catch a tartar means to catch a dangerous person
72.	4	The correct idiom is that leopard can't change its spots
73.	1	Hyperbole is the exaggeration of something and here also the same thing has happened. Assonance means resemblance, anaphora means repetition and Alliteration means occurrence of same letter
74.	2	Metaphor is an implied comparison and here the strength of a mother is compared with cosmic energy in cosmos.
75.	3	Onomatopoeia is something which imitates a natural sound of a thing.
76.	1	This word can be replaced by cactus
77.	4	The word TROUSSEAUX can be replaced by Trousseau, hence the answer is none of the above.
78.	4	The singular form of scarves should be scarf. So none of the above should be the answer.
79.	1	Drawing pin is referred as a thumb stack or a thumb pin.
80.	2	Aubergine is referred to as eggplant in USA.
81.	4	Baseball is called as Rounders in British English
82.	1	Nuclear weapon should go well in the blank
83.	4	Seminal Research is a company's name.
84.	4	Large percentage is the correct usage
85.	2	'Against the clock' means to do the work as fast as possible.

86.	1	It is a superstitious way to say good luck.
87.	4	Sentence never starts with myself
88.	4	It should be 2 o'clock in the afternoon
89.	2	Parents 'P' should not be in capital and 'was' in place of 'am'
90.	4	Since the sentence is in present tense, it should be 'can be' instead of 'could be'
91.	4	It should be 'taller' and not 'more taller'
92.	3	Refer 3rd Para, Last line "it is this …in wisdom"
93.	2	Refer 3rd Para, 1st line, "I think ..senses"
94.	3	Refer Last Para, 8th line, "With every …are unwise"
95.	2	Refer 1st Para, 4th line, "Suppose, for example..pursuit of knowledge"
96.	3	It is mentioned in the paragraph that above mentioned four things contribute to wisdom. This question is based on understanding of the whole passage.
97.	1	It should be 'capable of' instead of 'capable at'.
98.	1	It should be cousin , not cousin brother
99.	1	As per the context it should be 'hotels started charging higher than stipulated so 'raking off', which means 'taking/extracting money illegally'.
100.	3	Crashed in means something happening loud or to collide
101.	1	Inclement means something very cold or stormy
102.	1	Taciturn means shy and the opposite is garrulous which means somebody who speaks a lot.
103.	1	It is judicial activism which means a political issue.
104.	3	Since the given pair is of synonyms, hence the answer should also be a synonym pair
105.	4	Tepid means lukewarm i.e. lesser than hot, so Joy means happiness lesser than ecstasy which means intense happiness.
106.	4	Parable means a lesson whereas the rest of the words mean mocking
107.	1	Euphemism means indirect way to soften the blow , but rest of the words mean a proverb
108.	4	Bleak means dull whereas rest of the words mean fear
109.	2	The name of the attribute will come and not the ambiguous pronoun.
110.	2	Parallelism should be maintained. "the more .. the better"
111.	1	Total score after 15 innings = 15 × 32 = 480 As the average increased by 2, so the new average is 34. Total score after 16 innings = 16 × 34 = 544 Hence score in 16th inning = 544 – 480 = 64
112.	2	The LCM of 14, 16, and 18 is 1008. Among the given options, only 7056 is a perfect square and is divisible by 1008.
113.	4	The LCM of 20, 30, 40, 50 is 600 So they will clap together after 600 minutes or 10 hours. So they will again clap together at 8pm
114.	2	Let B got x votes, so A got 1.4x & C got 1.2x Given that 1.4x – 1.2x = 4000 $\Rightarrow$ x = 20000 Hence total number of voters who voted = x + 1.4x + 1.2x = 3.6x = 3.6 × 20000 = 72000 Now as 90% people voted, so 90% of total voters = 72000 $\Rightarrow$ Total voters = $\dfrac{72000}{90} \times 100 = 80000$
115.	3	Let total students are 100. So 15 cleared either no section or all sections. Out of the remaining 85 students, 60% cleared 1 section or 2 sections or 3 sections. So the no. of students who cleared 4 sections are 40% of 85 = 34. Now if 34 students cleared section 4, total students are 100 If 1020 students cleared section 4, total students = $\dfrac{100}{34} \times 1020 = 3000$.
116.	3	As the man sold 3/5 of the articles at 20% gain and rest at cost price, so the net percentage gain = $\dfrac{3}{5} \times 20 = 12\%$
117.	2	Let the marked price = Rs. 100 As after giving a discount of 10%, he is gaining 50%, so cost price = $\dfrac{90}{1.5} = Rs\,60$

		Now if there is no discount, then SP = Rs. 100. ∴ Gain = 100 – 60 = Rs. 40. ∴ %age Gain = $\dfrac{40}{60} \times 100 = 66.66\%$
118.	1	Total milk = 50 L Volume of Mixture / Milk replaced each time = 5l. As this process is repeated 4 times, so the milk remained = $50\left(1 - \dfrac{5}{50}\right)^4$ $= 50 \times \left(\dfrac{9}{10}\right)^4 = \dfrac{50 \times 9 \times 9 \times 9 \times 9}{10 \times 10 \times 10 \times 10} = 32.8 \text{ litre}$
119.	3	The first time, the ball covered 200m. After that it covered each distance twice, once upward and then downward. So the total distance covered = 200 + 2 (160 + 128 + ---------) $= 200 + 2\left[\dfrac{160}{1 - \dfrac{4}{5}}\right] = 200 + 2\,[160 \times 5]$ = 200 + 2 (800) = 200 + 1600 = 1800m
120.	2	The two digit numbers which give remainder 2, when divided by 7 are 16, 23, 30, 37, --------93. These are 12 numbers which form an A.P. with first term 16 and common difference 7. Their sum = $\dfrac{12}{2}\big[16 + 93\big]$ = 109 × 6 = 654.
121.	1	Let the total distance = x km Average speed = $\dfrac{\text{Total dis}\tan ce}{\text{Total time}}$ $= \dfrac{x}{\dfrac{x}{2} \times \dfrac{1}{90} + \dfrac{1}{3} \times \dfrac{x}{2} \times \dfrac{1}{30} + \dfrac{x}{3} \times \dfrac{1}{10}} = \dfrac{1}{\dfrac{1}{180} + \dfrac{1}{180} + \dfrac{1}{30}}$ $= \dfrac{1}{\dfrac{1+1+6}{180}} = \dfrac{180}{8} = 22.5 k/h.$

122.	3	Let John's age 5 years ago = x
		His grandfather's age, 5 years ago = 5x.
		John's age after 25 years = x + 30
		John's grandfather's age after 25 years = 5x + 30
		Given that 5x + 30 = 2 (x + 30)
		                     5x + 30 = 2x + 60
		                         3x = 30
		                          x = 10
		∴ John's present age = x + 5 = 10 + 5 = 15 years.
		His grandfather's present age = 5x + 5 = 5 × 10 + 5 = 55 years
		∴ Reqd. Ratio is 15 : 55 or 3 : 11

123.	3	Let the quotient of last division is 1. So the number is 5 × (6 × 1 + 2) + 3 = 5 × 8 + 3 = 43 Now when 43 is divided successively by 3 and 4 the remainders are 1 and 2 respectively.
124.	4	The no. of zeroes are $\left[\dfrac{1024}{5}\right] + \left[\dfrac{1024}{5^2}\right] + \left[\dfrac{1024}{5^3}\right] + \left[\dfrac{1024}{5^4}\right] + \left[\dfrac{1024}{5^5}\right] + - - - - - -$ = 204 + 40 + 8 + 1 = 253.
125.	4	We have x = 3 + 2 √2

		$\Rightarrow x^2 = (3 + 2\sqrt{2})^2 = 9 + 8 + 12\sqrt{2} = 17 + 12\sqrt{2}$ and $\dfrac{1}{x^2} = \dfrac{1}{17 + 12\sqrt{2}} \times \dfrac{17 - 12\sqrt{2}}{17 - 12\sqrt{2}} = \dfrac{17 - 12\sqrt{2}}{289 - 288} = 17 - 12\sqrt{2}$ $\therefore x^2 + \dfrac{1}{x^2} = 17 + 12\sqrt{2} + 17 - 12\sqrt{2} = 34$
126.	1	The unit digit of $13 \times 27 \times 63 \times 51 \times 98 \times 46$ is same as that of $3 \times 7 \times 3 \times 1 \times 8 \times 6$ which is 4.
127.	4	We know that, in case of wrong wt. $\dfrac{1000 - \text{false wt.}}{\text{false wt.}} \times 100 = 5$ $\Rightarrow 1000 \times 100 - 100f = 5f$ $\Rightarrow 100000 = 105f$ $\Rightarrow f = \dfrac{100000}{105} = 952.381$ $\therefore$ The weight used is 952.381gm.
128.	1	A, B, C can do the work in 6, 8 and 12 days respectively. Let the total work is 24 units. Hence A can do 4 units/day, B can do 3 units/day, C can do 2 units/day. $\therefore$ Work done by A, B, C is in ratio 4 : 3 : 2. $\therefore$ Rs. 2700 will be divided among A, B and C in 4 : 3 : 2 $\therefore$ C's share $= \dfrac{2}{9} \times 2700 = $ Rs.600
129.	2	In the word UNIVERSAL, we have 4 vowels U, I, E and A and 5 consonants N, V, R, L and S. We have to find the no. of words using 2 vowels and 3 consonants. $\therefore$ Total words $= 4_{C_2} \times 5_{C_3} \times 5! = 6 \times 10 \times 120 = 7200$.
130.	3	Let the tank is of 12 L and A, B, C can fill it in 12 hrs. So A, B, C are filling 1 L in 1hr. So in 3 hours, the total tank filled is 3 L. The remaining 9 L is filled by A & B in 10 hours. $\therefore$ A & B together can fill $\dfrac{9}{10} l$ in 1 hours. So in 3 hours, A & B can fill $\dfrac{27}{10} l$. Hence in 3 hours, C has filled $3 - \dfrac{27}{10} = \dfrac{3}{10} l$. Now $\dfrac{3}{10} l$ is filled by C in 3 hours. $\therefore 12 l$ is filled by C in $3 \times \dfrac{10}{3} \times 12 = 120$ hours
131.	1	The numbers between 1 and 65, which are divisible by 4 are 04, 08, 12, 16, 20, 24, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64. Now after swapping the unit digit and ten's digit we have 40, 80, 21, 61, 02, 42, 82, 23, 63, 04, 44, 84, 25, 65, 06, 46. Their increasing order is 02, 04, 06, 21, 23, 25, 40, 42, 44, 46, 61, 63, 65, 80, 82, 84. Hence 10th number from the last is 40.
132.	2	Probability of Ajit = 5/8 Probability of Ravi = 3/5 Probability of Hari = ½ Probability that the target is hit by at least 2 persons = 1 − [Prob of no hit + Prob of 1 hit]. $= 1 - \left[\dfrac{3}{8} \times \dfrac{2}{5} \times \dfrac{1}{2} + \dfrac{5}{8} \times \dfrac{2}{5} \times \dfrac{1}{2} + \dfrac{3}{8} \times \dfrac{3}{5} \times \dfrac{1}{2} + \dfrac{3}{8} \times \dfrac{2}{5} \times \dfrac{1}{2} \right]$ $= 1 - \left[\dfrac{6 + 10 + 9 + 6}{80} \right] = 1 - \dfrac{31}{80} = \dfrac{49}{80}$

133.	3	We have $\dfrac{1}{2}\log x + \dfrac{1}{2}\log y + \log 2 = \log(x+y)$
		$\Rightarrow \log 2\sqrt{xy} = \log(x+y).$
		$\Rightarrow x + y = 2\sqrt{xy}$
		$\Rightarrow (x+y)^2 = 4xy$
		$\Rightarrow x^2 + y^2 + 2xy = 4xy$
		$\Rightarrow x^2 + y^2 - 2xy = 0$
		$\Rightarrow (x-y)^2 = 0$
		$\Rightarrow x - y = 0$
		$\Rightarrow x = y$
134.	4	We have $\log_5 25 + \log_2(\log_3 81) = \log_5 5^2 + \log_2(\log_3 3^4)$
		$= 2\log_5 5 + \log_2(4\log_3 3)$
		$= 2 + \log_2 4 = 2 + \log_2 2^2$
		$= 2 + 2\log_2 2$
		$= 2 + 2$
		$= 4$
135.	2	Let AB is the rock and the boat is going from C to D.
		We have $\angle BCA = 30°$ and $\angle BDA = 60°$
		Let $AB = x$
		In $\triangle ABD$, $\dfrac{AB}{AD} = \tan 60° = \sqrt{3} \Rightarrow \dfrac{x}{AD} = \sqrt{3} \Rightarrow AD = \dfrac{x}{\sqrt{3}}$

In $\triangle ABC$, $\dfrac{AB}{AC} = \tan 30° \Rightarrow \dfrac{x}{AC} = \dfrac{1}{\sqrt{3}} \Rightarrow AC = \sqrt{3}x$

$\therefore CD = AC - AD = \sqrt{3}x - \dfrac{x}{\sqrt{3}} = \dfrac{2x}{\sqrt{3}}$

Now the boat takes 20 minutes to cover $\dfrac{2x}{\sqrt{3}}$ distance

So it will take 10 minutes to cover $\dfrac{x}{\sqrt{3}}$ distance.

Hence it will reach the shore in 10 minutes.

136.	1	Let the number of students who learnt all the three languages is x.
		Now $20 + 6 - x + x + 8 - x = 30$
		$\Rightarrow 34 - x = 30$
		$\Rightarrow x = 4$

G(30), F(20), 6, 20, 6-x, x, 8-x, 8, 10, S(30)

Hence the total number of students
= 30 + 20 + 30 – 6 – 8 – 10 + 4 = 60

137.	2	Probability that Sonali can solve the problem = P(S) = $\dfrac{7}{10}$ Probability that Nirali can solve the problem = P(N) = $\dfrac{6}{10}$ Probability that at least one of them will solve the Problem = 1 – (none has solved it) = $1 - \left(\dfrac{3}{10} \times \dfrac{4}{10}\right) = 1 - \dfrac{12}{100} = \dfrac{88}{100} = 0.88$
138.	3	Let 'a' is the amount invested and 'r' is the rate percent per annum. $\therefore \dfrac{a \times (r+2) \times 3}{100} - \dfrac{a \times r \times 3}{100} = 360$ $\Rightarrow \dfrac{a \times 6}{100} = 360 \Rightarrow a = Rs.\ 6000.$
139.	3	The ratio of first amount to second is 4 : 5 Let the two amounts are 4x & 5x respectively. Now we have $\dfrac{4x \times 6 \times 2}{100} + \dfrac{5x \times 7 \times 2}{100} = 354$ $\Rightarrow \dfrac{118x}{100} = 354$ $\Rightarrow x = 300$ Hence the total amount invested = 4x + 5x = 9x = 9 × 300 = 2700
140.	2	The total no. of selection of 2 bulbs out of 9 = 9_{C_2} As the two selected bulbs can be used to lighten the room, hence it can be done in 7_{C_2} ways. $\therefore$ Reqd. Probability = $\dfrac{7_{C_2}}{9_{C_2}} = \dfrac{7 \times 6}{9 \times 8} = \dfrac{7}{12}$
141.	4	We have x = (p – a) × (p – b) × (p - c) × ---------- × (p - z). As it contains 26 terms, so the product will have one of the terms as (p - p) which is zero. Thus, the product of the 26 terms with one term being zero will be surely zero. Hence option 2 is the answer.
142.	3	In one cage there are 9 lions and 81 cubs. So there are 90 animals in one cage Hence there are 360 legs in one cage. Since one man has 9 cages, so total legs of animals with one man = 9 × 360 = 3240 Now there are 9 men, so total legs = 3240 × 9 + 9 × 2 = 29160 + 18 = 29178
143.	4	We will solve this question in parts. (i) Area of shaded region = 576 - $\pi (12)^2$ = 576 - 144π

		(ii) Area of shaded region = Area of quarter circle – Area of triangle $= \frac{1}{4} \times \pi(6)^2 - \frac{1}{2} \times 6 \times 6 = 9\pi - 18$ (iii) Area of shaded circle = Area of circle – Area of 2 petals $= \pi(6)^2 - 4(9\pi - 18)$ $= 36\pi - 36\pi + 72 = 72$ Thus area of 4 shaded circular regions = 72 × 4 = 288 Hence total shaded area of given figure = 576 - 144π + 288 = 864 - 144π
144.	1	The area of the 1st circle is $35^2 \times \pi = 1225\pi$. The diameter of the circle becomes the hypotenuse of the triangle. So the sides of the triangle are $35\sqrt{2}$ each and the semi-perimeter of the triangle is $35(\sqrt{2} + 1)$. If r is the in-radius of this triangle, then ½ × 35√2 × 35√2 = r × 35(√2 + 1) $\Rightarrow r = 35 / (\sqrt{2} + 1)$. So the diameter of this circle is 70 / (√2 + 1) and this is also the hypotenuse of the 2nd triangle. The sides of this triangle are 35√2 / (√2 + 1) each. So the area of this triangle is ½ × [35√2 / (√2 + 1)]² $= 1225/(\sqrt{2} + 1)^2$. The required ratio is $\pi(\sqrt{2} + 1)^2$.
145.	2	Suresh had lunch for Rs. 162 and took back Rs. 338. Similarly he had smack box for Rs. 37 and took back Rs. 63 So in total he took 162 + 338 + 37 + 63 = Rs. 600 from the restaurant. Now you can assume that he gave no money to the restaurant. (As both of his notes were counterfeit). So the restaurant gave him Rs. 600 and got nothing. So the total loss is Rs. 600.
146.	3	We have $2^x + 2^{x+1} = 48$ $\Rightarrow 2^x(1 + 2) = 48 \Rightarrow 3 \times 2^x = 48 \Rightarrow 2^x = 16$ $\Rightarrow 2^x = 2^4 \Rightarrow x = 4$. Hence $x^x = 4^4 = 256$
147.	2	Total population of A = 5000 Since 16% population is below poverty lines so 84% is above poverty line ∴ Pop. above poverty line = 84% of 5000 = 4200 Ratio of males and females above poverty line is 3 : 4 ∴ No. of females above poverty line = $\frac{4}{7} \times 4200 = 2400$
148.	4	As the total population of C & D is given, so we cannot find the individual number of females below poverty line.
149.	1	The ratio of Males and Females below poverty line in C is 3 : 4. Since there are 6000 males below poverty line in C, so there will be 8000 females below poverty line. Hence total people below poverty line in C = 6000 + 8000 = 14000. Now this is 14% of total population. Hence 14% of total population = 14000 ∴ Total pop = 100000 The no. of males below poverty line in E is 10000 and the ratio is 4 : 1. Hence there are 2500 females in E below poverty line. So total people below poverty line is 12500 which is 25% of total population. Hence total population of state E = 50000 Hence the reqd. ratio is 100000 : 50000 or 2 : 1
150.	3	The no. of females below poverty line is 18000 and the ratio of males and females in state F below poverty line is

2 : 3. Let there are x males.

Hence $\dfrac{x}{18000} = \dfrac{2}{3} \Rightarrow x = 12000$.